

# A Brief Presentation of Two Telescopes from the Late 19<sup>th</sup> and Early 20<sup>th</sup> Century at the Stockholm Old Observatory

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## The Old Observatory in Stockholm and the Repsold Refractor

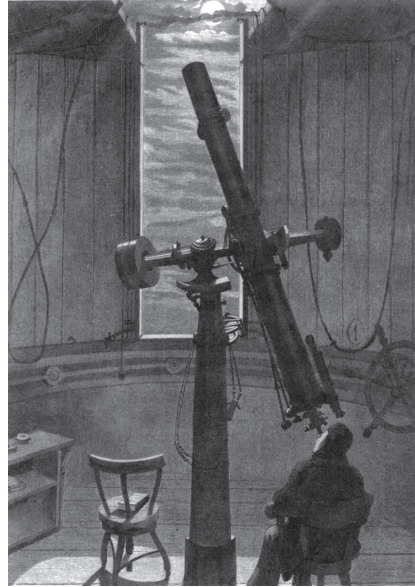
The first building of the Royal Swedish Academy of Sciences was the observatory, built in 1753 (Fig. 1). When Hugo Gylden was appointed the academy's astronomer in 1871, he was granted 33,000 Swedish kronor by the Swedish government to upgrade the instruments and the observatory building. The most important instrument Gylden ordered in 1875 was a 19-cm refracting telescope, made by Repsold & Söhne in Hamburg, with a focal length of 255 cm (Fig. 2). In 1877, the old original lantern tower was replaced with a more modern cupola to accommodate the new telescope (Fig. 3). To eliminate vibrations, the refractor was placed on a concrete pillar which ran through the whole building down to the basement.

When the new observatory was built in Saltsjöbaden in 1931, the Repsold refractor was moved to the new location as well (Fig. 4). Stray light from the city had made it impossible to carry out any competitive observations. By then Stockholm had grown to a major city, with increased light pollution even at the place where the old observatory was situated. Moreover, already at this time several large telescopes had been placed on high mountains further away from city light and traffic. The use of the telescope as a teaching tool for astronomy students was over. Today it has unfortunately been disassembled and the tube and its equatorial mounting are now stored, along with other instruments, in Tumba, Stockholm. Some of the refractor's optical devices



**Figure 1.** The Old Observatory in Stockholm.

Photo by Michael Lindberg.



**Figure 2.** Observation of the Moon at the Stockholm Observatory.

Drawing by Nils G. Janzon from *Ny illustrerad tidning* ('New illustrated magazine'), Stockholm, 1877.

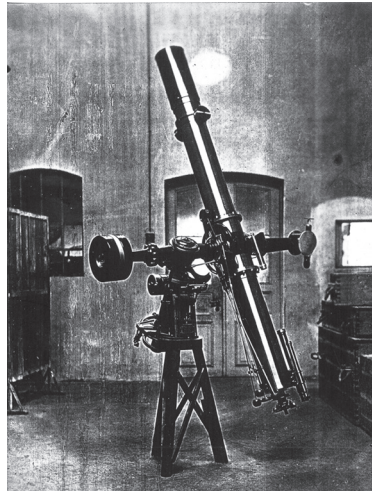
have gone missing. The concrete pillar was eventually removed after the observatory moved but its foundation can still be seen down in the basement.

## The observatory's museum and the Zeiss refractor

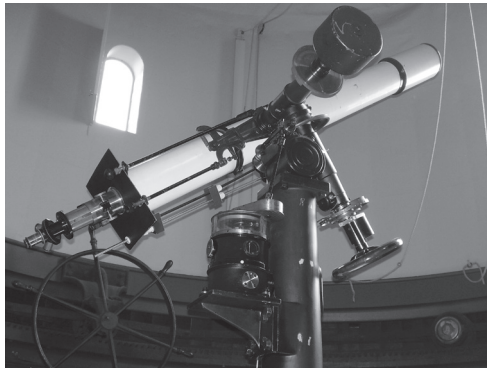
After the astronomers moved to Saltsjöbaden, the old observatory building hosted the geographical institution for some time. In 1964, when the Stockholm Amateur Astronomical Society was founded, they started to use the cupola for observations, using their own instruments. Around the same time, the representatives of a soon to be closed observatory in Skansen open-air museum in Stockholm approached the amateur astronomers and offered them their 13-cm Zeiss refractor (Fig. 5). The amateur astronomers accepted the refractor, which was then thoroughly renovated and placed in the cupola of the Old Observatory. The telescope with a focal length of 195 cm acquired in 1910 had been a gift



**Figure 3.** The dome which replaced the original lantern tower. Photo by Michael Lindberg.



**Figure 4.** The Repsold refractor photographed at the new observatory. Photo from the archive of the Saltsjöbaden observatory.



**Figure 5.** The Carl Zeiss refractor built in 1910 with an equatorial mounting and a main objective of 13 cm. Photo by Michael Lindberg.

of the famous Stockholm architect Ferdinand Boberg on his 50<sup>th</sup> birthday to Skansen. Boberg had designed several famous buildings in Stockholm such as the Skansen Observatory, the NK department store, the old central post office, and two elegant brick gas holders.

As the concrete pillar had been removed, the amateur astronomers built a new steady foundation for the instrument on iron beams. The cupola's interior was also renovated; it is fully functional to this day and has been used for public observations of stars and planets.

The two instruments mentioned here are of high historical interest; unfortunately, they are no longer used as the observatory's museum was closed at the end of 2013 due to financial reasons. In addition, the original Repsold refractor ought to be renovated and restored since it is a valuable contribution to preserving the history of the Royal Swedish Academy of Sciences.

## Bibliography

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